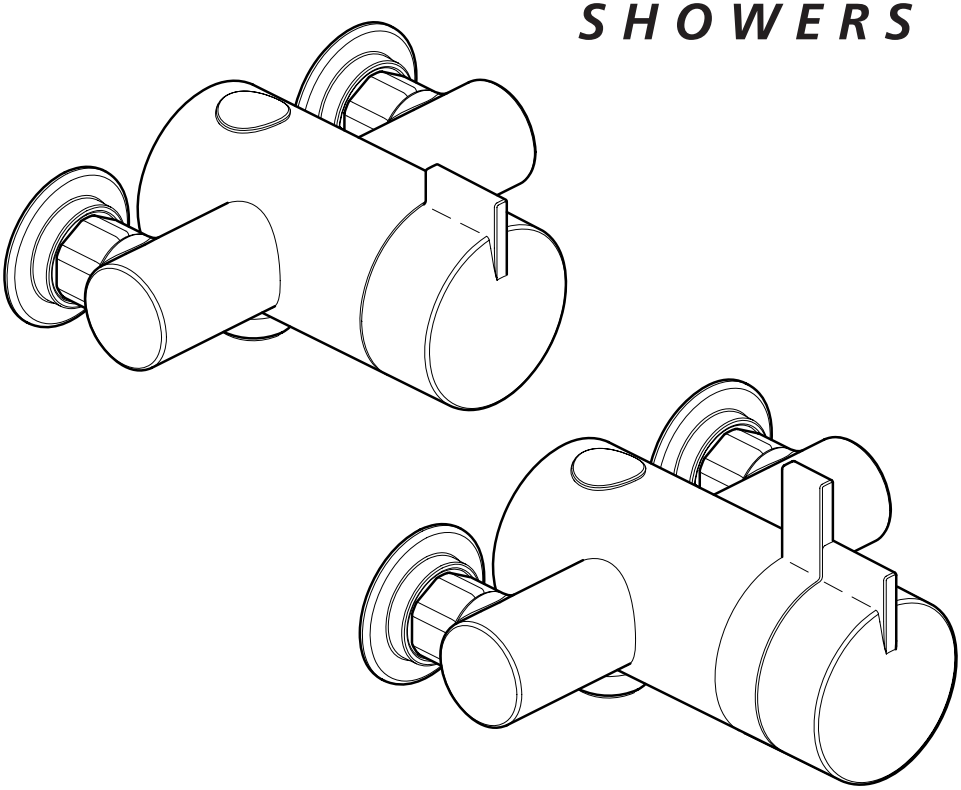
SHOWERS



MIRA MOTO, MIRA PACE†,
MIRA MINILITE†, AND MIRA MINIDUO†
(†including Eco models)

THERMOSTATIC MIXERS

INSTALLATION & USER GUIDE

These instructions must be left with the user.

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If you experience any difficulty with the installation or operation of your new thermostatic mixer, please refer to **'Fault Diagnosis'**, before contacting Kohler Mira Ltd. Our contact details can be found on the back cover of this guide.

INTRODUCTION

Thank you for purchasing a quality Mira product. To enjoy the full potential of your new product, please take time to read this guide thoroughly, having done so, keep it handy for future reference.

The Mira Moto, Mira Minilite and Mira Minilite Eco are thermostatic mixers with a single control lever for on/off and temperature control.

The Mira Pace, Mira Pace with Eco Showerhead, Mira Miniduo and Mira Miniduo with Eco Showerhead are thermostatic mixers with separate on/off and temperature controls.

The thermostatic mixers incorporate a wax capsule temperature sensing unit, which provides an almost immediate response to changes in pressures or temperature of the incoming water supplies to maintain the selected temperature. An adjustable maximum temperature stop is provided which limits the temperature to a safe level. Inlet filters are fitted to protect the thermostatic cartridge.

These products have been certified as Type 2 valves under the BUILDCERT TMV2 scheme. They also comply with the Water Supply (water fittings) Regulations 1999.

Guarantee

For **domestic installations**, Mira Showers guarantee the products listed in this guide against any defect in materials or workmanship for a period of **three** years from the date of purchase (shower fittings for one year).

For **non-domestic installations**, Mira Showers guarantee the products listed in this guide against any defect in materials or workmanship for a period of **one** year from the date of purchase.

For terms and conditions refer to the back cover of this guide.

Recommended Usage

Application	Valve with Fittings
Domestic	✓
Light Commercial	✓
Heavy Commercial	×
Healthcare	×

Patents and Design Registration

Patents:

GB: 2 291 693, 2 340 210, 2 392 225, 2 421 297

Euro: 1 672 257 DE, FR, GB, IT, NL, SE

USA: 7 240 850

Patent Applications:

Euro: 03254070.0

USA: 2006-0124758-A1, 2007-0221740-A1

Design Registration:

000793401-0005-00011

SAFETY WARNINGS

Mira thermostatic mixers are precision engineered and should give continued safe and controlled performance, provided:

1. They are installed, commissioned, operated and maintained in accordance with manufacturer's recommendations.
2. Type 2 Valves are only used for applications covered by their approved designations, refer to section: **'Type 2 Valves'**.
3. Periodic attention is given, when necessary, to maintain the product in good functional order.

Caution!

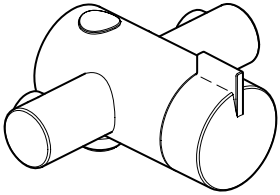
1. Read all of these instructions.
2. Retain this guide for later use.
3. Pass on this guide in the event of change of ownership of the installation site.
4. Follow all warnings, cautions and instructions contained in this guide.
5. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm or anyone inexperienced in the correct operation of the controls.
6. Rapid/Excessive movement of the flow and/or temperature control levers may result in momentary unstable blend temperatures.
7. Care is required when adjusting flow or temperature, make sure that the temperature has stabilised.
8. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.

PACK CONTENTS

Tick the appropriate boxes to familiarise yourself with the part names and to confirm that all of the parts are included.

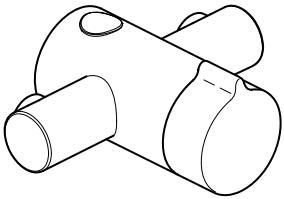
Exposed Thermostatic Mixers

❑ **1 x Thermostatic Mixing Valve**

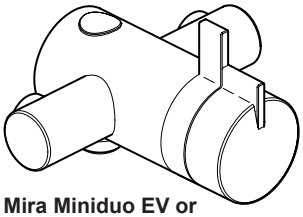


Mira Minilite EV or

Mira Minilite Eco EV



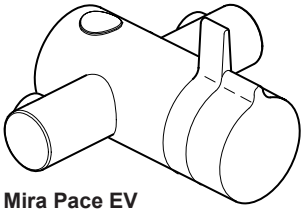
Mira Moto EV



Mira Miniduo EV or

Mira Miniduo with adjustable elbows

Mira Miniduo with Eco Showerhead EV



Mira Pace EV

Mira Pace with adjustable elbows

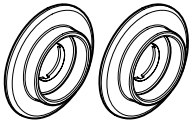
Mira Pace with Eco Showerhead EV

Documentation

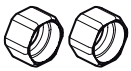
❑ 1 x Guarantee Registration Document

❑ 1 x Installation Template

Component Pack



❑ 2 x Concealing Plates



❑ 2 x Compression Nuts

❑ 2 x Olives

❑ 2 x Wall Plugs

❑ 2 x Fixing Screws

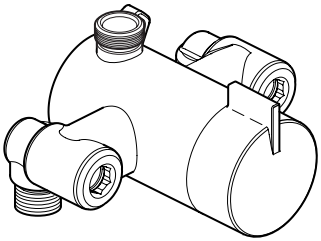
❑ 1 x 2.5 mm Hexagonal Key

❑ 1 x Flow Regulator (refer to section: **'Flow Regulators'**)

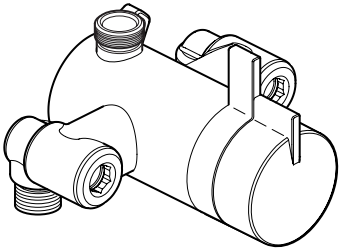
❑ 1 x 'O' Key

Built-in Thermostatic Mixers

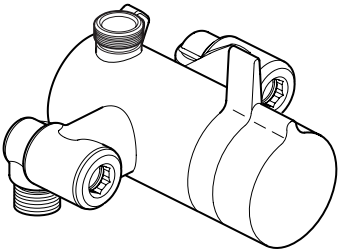
❑ **1 x Thermostatic Mixing Valve**



Mira Minilite BIV or
Mira Minilite Eco BIV



Mira Miniduo BIV or
Mira Miniduo with Eco Showerhead BIV or
Mira Miniduo with Eco Showerhead BIR



Mira Pace BIV

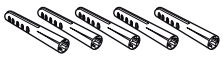
Documentation

❑ 1 x Guarantee Registration Document
❑ 1 x Cardboard Building-in Shroud

Component Pack

❑ 3 x Compression Nuts

❑ 3 x Olives



❑ 5 x Wall Plugs

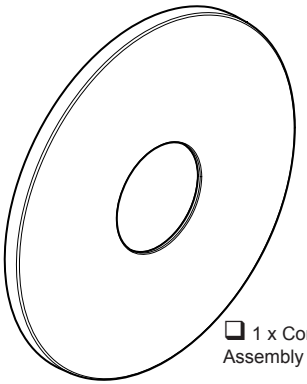
❑ 5 x Fixing Screws

❑ 1 x 2.5 mm Hexagonal Key

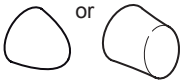
or or

❑ 1 x Flow Regulator (refer to section: **'Flow Regulators'**)

❑ 1 x 'O' Key



❑ 1 x Concealing Plate Assembly



or

❑ 1 x RAC Assembly

Valve Combinations

These thermostatic mixers are available with various shower fittings and water saving features, refer to the table below to identify your mixer valve combination:

Mixer Valve	Shower Fittings	Flow Regulator		
		Flow Rate	Colour	Comments
Moto EV / Minilite EV	L14A	12 L/Min	Red	Supplied in the component pack, designed to be fitted in the shower valve outlet
Pace EV / Miniduo EV	L98B	12 L/Min	Red	Supplied in the component pack, designed to be fitted in the shower valve outlet
Minilite BIV	L14A	12 L/Min	Natural	Supplied in the component pack, designed to be fitted between the shower hose and RAC assembly
Minilite Eco EV	L14A	6 L/Min	Black	Factory fitted in the shower valve outlet (optional 8 L/Min (white/natural) flow regulator supplied separately in the component pack)
Minilite Eco BIV	L14A	6 L/Min	Black	Factory fitted in the RAC assembly (optional 8 L/Min (white/natural) flow regulator supplied separately in the component pack)
Miniduo BIV	L98B	12 L/Min	Natural	Supplied in the component pack, designed to be fitted between the shower hose and RAC assembly
Pace BIV	L14D			
Pace with Eco Showerhead EV	L98B with Eco Showerhead	7.0 L/Min	Olive Green	Supplied in the component pack, designed to be fitted between the shower hose and shower valve outlet
Miniduo with Eco Showerhead EV	L98B with Eco Showerhead	7.0 L/Min	Olive Green	Supplied in the component pack, designed to be fitted between the shower hose and shower valve outlet
Miniduo with Eco Showerhead BIV	L98B with Eco Showerhead	7.0 L/Min	Olive Green	Supplied in the component pack, designed to be fitted between the shower hose and RAC assembly
Miniduo with Eco Showerhead BIR	Eco BIR Showerhead	7.3 L/Min	Bright Green	Supplied with the Eco BIR shower head, designed to be fitted between the wall plate and inlet nipple

Flow regulators are supplied for installation on high pressure systems (above 0.5 bar).

For gravity fed or other low pressure systems do not fit the flow regulator.

The Mira Minilite Eco has a flow regulator factory fitted in the shower valve outlet or RAC assembly, on older combination boiler systems it may be necessary to replace this 6 L/Min flow regulator with the 8 L/Min flow regulator (supplied), in order to achieve the minimum flow rate required to ignite and run the boiler.

Important! The fitting of any flow regulator to Pace and Miniduo models will invalidate TMV2 compliance due to the minimum flow rate requirements. Do not fit flow regulators in TMV2 applications to these models.

For further information on how and where to fit the flow regulator, refer to section: **'Flow Regulators'**.

SPECIFICATIONS

For Type 2 Valves, the supply conditions specified in section: **'Type 2 Valves - Application'** take precedence over the operating parameters which follow.

Pressures

- Max Static Pressure: **10 Bar**.
- Max Maintained Pressure: **5 Bar**.
- Min Maintained Pressure (Gravity System): **0.1 Bar** (**0.5 Bar** for models with Eco Showerhead). (0.1 bar = 1 Metre head from cold tank base to showerhead outlet).

  Note! For gravity fed or other low pressure systems (0.5 bar or below) do not fit the outlet flow regulator (where applicable).
- For optimum performance supplies should be nominally equal.

Temperatures

- Factory Pre-set (Blend) Shower: **41°C**.
- Optimum Thermostatic Control Range: **35°C to 43°C** (achieved with supplies of 15°C cold, 65°C hot and nominally equal pressures).
- Recommended Hot Supply: **60°C to 65°C Note!** The mixing valve can operate at higher temperatures for short periods without damage, however this could detrimentally affect thermostatic performance. For safety and performance reasons it is recommended that the maximum hot water temperature is limited to 65°C.
- Cold Water Range: up to **25°C**.
- Minimum Recommended Differential between Hot Supply and Outlet Temperature: **12°C**.

Thermostatic Shut-down

- For safety and comfort the thermostat will shut off the mixing valve **within 2 Seconds** if either supply fails (achieved only if the blend temperature has a minimum differential of 12°C from either supply temperature).

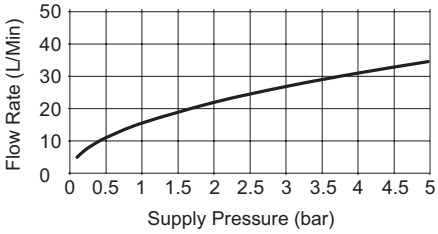
Connections

- Inlets: 15 mm Compression.
- Outlet: ½" BSP Flat Face / 15 mm Compression
- Standard connections are: **hot - left, cold - right, outlet - bottom (EV models), top (BIV and BIR models)**.

Flow Rates

Typical Flow Rates.

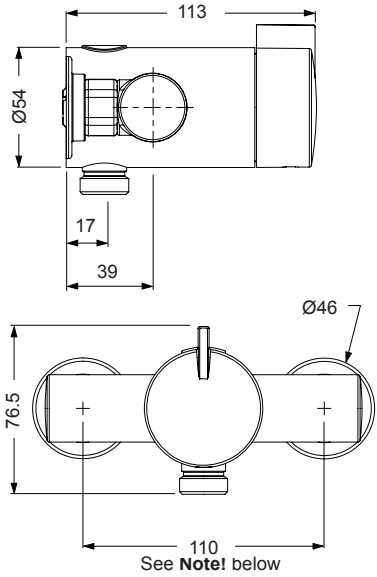
Mira Miniduo with Mira L98B Shower Fittings:



Dimensions

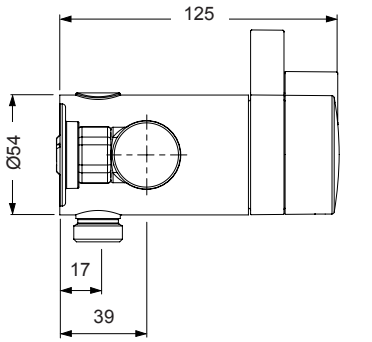
(All dimension in millimetres)

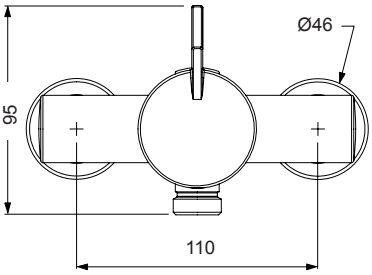
Moto, Minilite and Minilite Eco EV



See **Note!** below

Pace, Pace with Eco Showerhead, Miniduo and Miniduo with Eco Showerhead EV

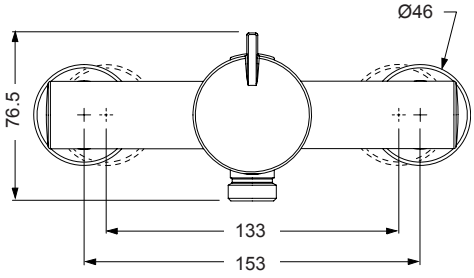




See **Note!** below

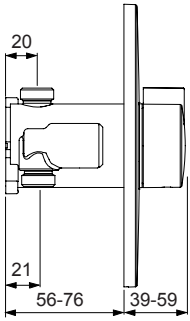
Note! If you are retro-fitting your mixing valve onto existing pipework, an **Adjustable Elbow Pack** is available if required, refer to section: **'Accessories'**.

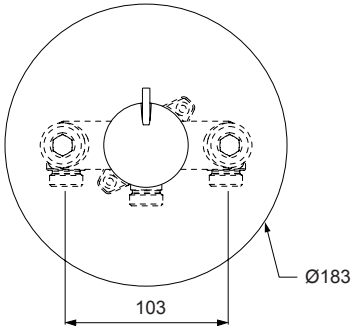
Miniduo and Pace with Adjustable Elbows



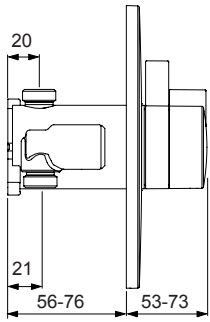
Pipe Centres at extremes of elbow adjustment

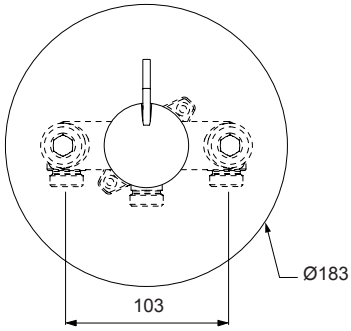
Minilite and Minilite Eco BIV





Pace, Miniduo BIV and Miniduo with Eco Showerhead BIV / BIR





INSTALLATION

Suitable Plumbing Systems

Gravity Fed:

The thermostatic mixer must be fed from a cold water cistern (usually fitted in the loft space) and a hot water cylinder (usually fitted in the airing cupboard) providing nominally equal pressures.

Mains Pressurised Instantaneous Hot Water System (Combination Boiler):

The thermostatic mixer can be installed with systems of this type with balanced pressures. (Recommended Minimum Maintained Pressure: **1.0 Bar**).

Note! On combination boiler systems we recommend that the thermostatic mixer is operated in the maximum flow position in order to achieve the minimum flow rate required to ignite and run the boiler.

Unvented Mains Pressure System:

The thermostatic mixer can be installed with an unvented, stored hot water system.

Pumped System:

The thermostatic mixer can be installed with an inlet pump (twin impeller). The pump must be installed in a suitable location and in accordance with its instructions.

General

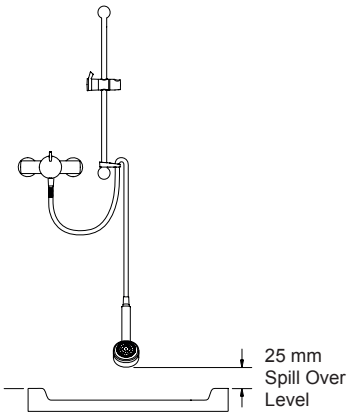
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The installation must comply with the "Water Supply Regulations 1999 (Water Fittings)" or any particular regulations and practices, specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: **'Specifications'**. For Type 2 Valves see also supply conditions in section: **'Type 2 Valves'**.

1. The Mixer must not be installed in an area where it may freeze.
2. For stud partitions alternative fixings may be required.
3. Isolating valves **must** be installed close to the Mixer for ease of maintenance.
4. Pipework must be rigidly supported and avoid any strain on the connections.
5. Pipework dead-legs should be kept to a minimum.
6. Decide on a suitable position for the Mixer. The position of the Mixer and the Shower Fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/ bath and the showerhead (refer to illustration). This is to prevent back-siphonage. For further information on the installation of your **Shower Fittings**, refer to the Fittings Installation and User Guide.

   Note! Only use Shower Fittings recommended by the manufacturer or supplier.

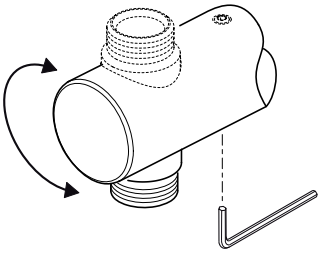


Exposed Thermostatic Mixers

For **Built-in** Thermostatic Mixers go to section: **'Installation, Built-in Thermostatic Mixers'**.

1. The thermostatic mixer can be installed with rear, rising or falling supply inlets. Decide on the most appropriate method for your installation, and if necessary, loosen the grubscrews and rotate the inlet elbows to suit.

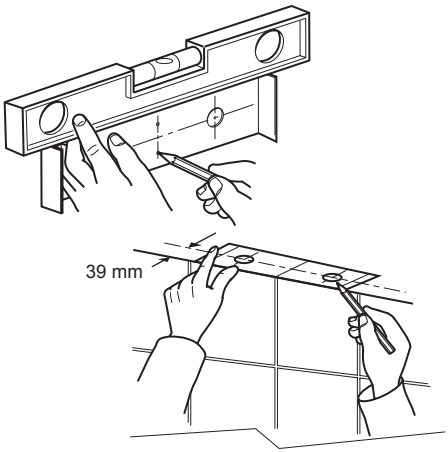
Important! Make sure that the elbows are pushed fully onto the mixer before tightening the grubscrews, **do not** overtighten.



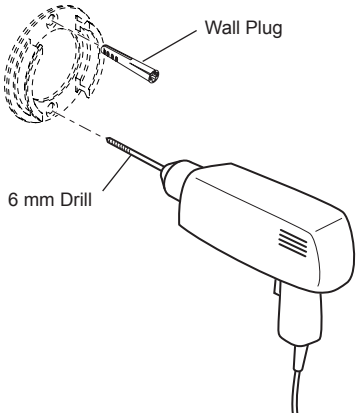
2. Use the installation template to mark the positions of the holes for the backplate and the pipe centres.

For rising or falling supplies the pipe positions should be set 39 mm from the centre of pipe to the finished wall at 110 mm centres.

Note! If you are retro-fitting your mixing valve onto existing pipework, an **Adjustable Elbow Pack** is available if required, refer to section: **'Accessories'**.



3. For solid walls drill the holes for the backplate with a 6 mm drill and insert the wall plugs (supplied). For other types of wall structure alternative fixings may be required (not supplied).



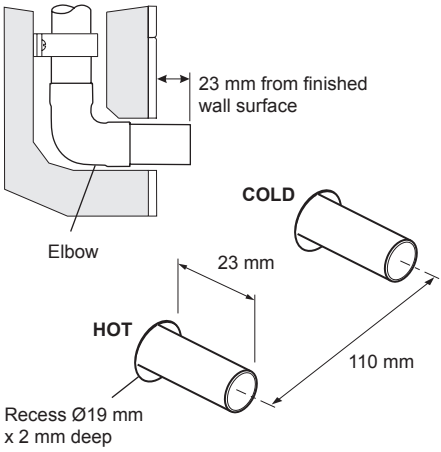
4. For Rear Entry Supplies Only:

a) Drill the holes for the supply pipes at 110 mm centres.

Note! Recess the inlet holes Ø19 mm x 2 mm deep to allow for the concealing plates.

5. Fit the supply pipework: **Hot - Left, Cold - Right.** The inlet pipework should extend 23 mm from the finished wall surface.

Note! If it is not possible to install the mixer with this pipework configuration follow instruction 6.

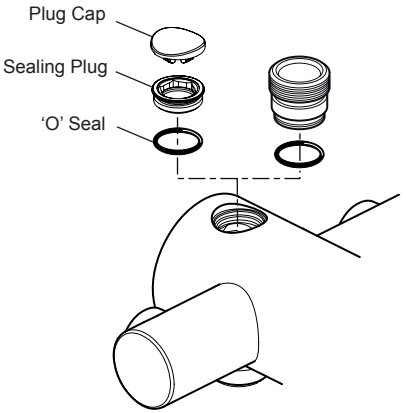


6. **Reversed Inlet Supplies Only:**
   - **a)** Using a suitable tool, carefully remove the plug cap from the centre of sealing plug to reveal keyway.
   - **b)** Remove the sealing plug using the 'O' key (supplied) or a 12 mm hexagonal key.
   - **c)** Unscrew the outlet nipple using the 'O' key (supplied) or a 12 mm hexagonal key.

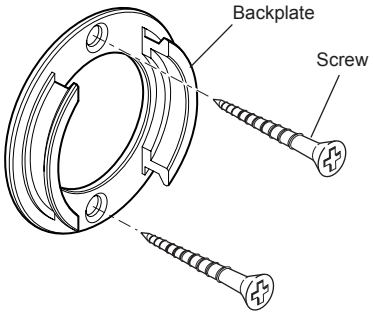
     Note! On Mira Minilite Eco models carefully remove the flow regulator from the outlet nipple first.
   - **d)** Refit the sealing plug and outlet nipple in the opposite outlets and tighten.

     Note! Make sure that the 'O' seals are correctly fitted.

     Note! On Mira Minilite Eco models refit the flow regulator.
   - **e)** Rotate the mixer 180°.
   - **f)** The control knob(s) will have to be realigned, this can be completed in section: **'Commissioning'**.



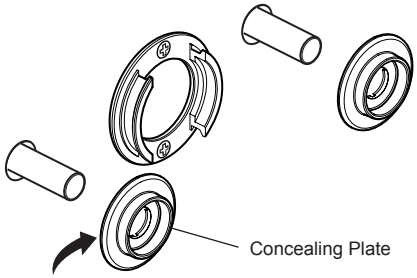
7. Remove the backplate from the mixer by loosening the grubscrew with a 2.5 mm hexagonal key (supplied).
8. Secure the backplate to the wall using the screws (supplied).



9. For Rear Entry Supplies Only:

a) Fit the concealing plates over the inlet pipes.

Note! Apply silicone sealant to the back face of the flange.



Apply Silicone Sealant

10. Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer. Failure to do so may result in product malfunction and will not be covered under the guarantee.

11. Fit the compression nuts and olives onto the pipework.

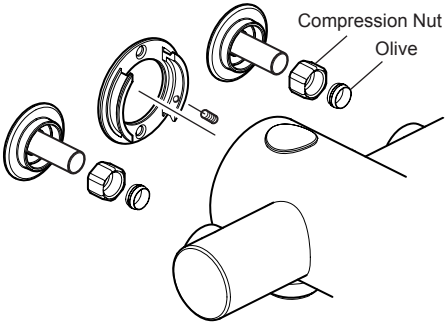
12. Align the mixer with the pipework and fit onto the backplate.

Important! Make sure that the hot and cold inlets on the mixer correspond with the hot and cold inlet supplies.

13. Tighten the compression nuts onto the mixer with a suitable wrench.

Caution! Take care not to damage the chrome surfaces.

14. Tighten the grubscrew to secure the mixer to the backplate.



15. Fit the shower fittings, refer to your shower fittings installation and user guide for instructions.

Important! For high pressure systems (above 0.5 bar) make sure that the flow regulator (supplied) is fitted, refer to section: **'Flow Regulators'**.

16. Turn on the hot and cold water supplies and check for leaks.

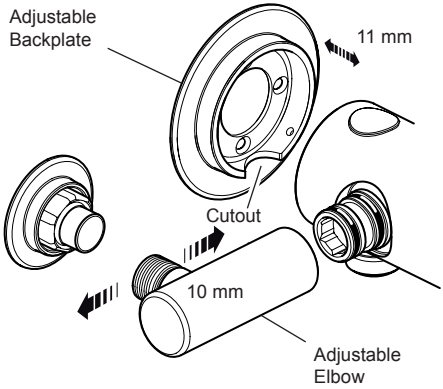
17. Before using the shower, refer to section: **'Commissioning'**.

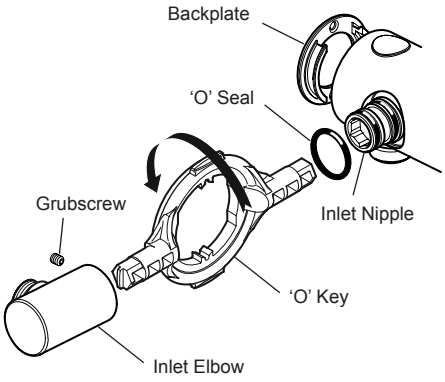
Adjustable Elbow Installation

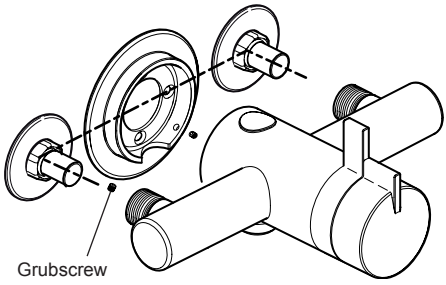
1. Unscrew the elbow grubscrews on the thermostatic mixer with a 2.5 mm hexagonal key (supplied with the thermostatic mixer), pull off the inlet elbows and discard.
2. Using the 'O' key (supplied with the thermostatic mixer) or a 12 mm hexagonal key, unscrew the inlet nipples and discard.
3. Fit the new adjustable elbow inlet nipples and tighten with the 'O' key.
4. Make sure that the 'O' seal is fitted and push the new elbow fully onto the inlet nipple. Tighten the grubscrew with a 2.5 mm hexagonal key.
5. Remove the backplate from the mixer by removing the grubscrew with a 2.5 mm hexagonal key.
6. Draw a centre line between the inlet pipework and, using the adjustable backplate as a template, mark the position of the adjustable backplate fixing holes.
7. For solid walls drill the holes for the backplate with a 6 mm drill and insert the wall plugs (supplied). For other types of wall structure alternative fixings may be required (not supplied).
8. Secure the backplate to the wall using the screws (supplied).
9. Align the mixer with the pipework and fit onto the backplate.

   Note! Make sure that the pipes are pushed fully into the inlet connectors.
10. Tighten the compression nuts onto the mixer with a suitable wrench.

    Caution! Take care not to damage the chrome surfaces.
11. Tighten the adjustable backplate grubscrews with a 2 mm hexagonal key (supplied) to secure the mixer to the backplate.

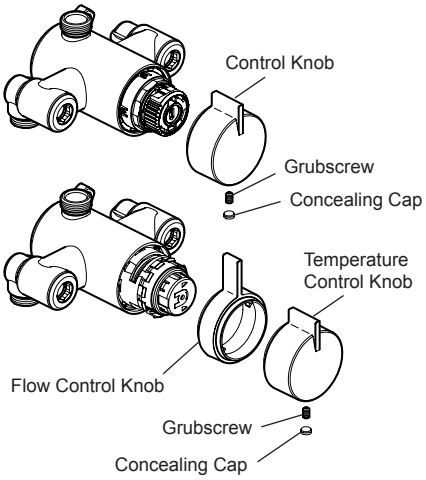




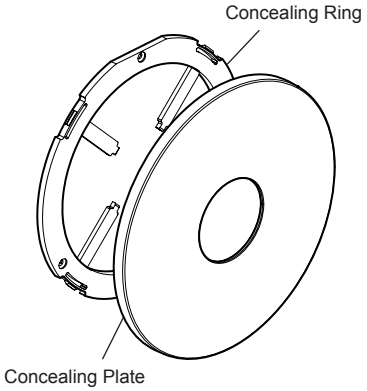


Built-in Thermostatic Mixers

1. Carefully remove the concealing cap from the control knob.
2. Unscrew the grubscrew using a 2.5 mm hexagonal key (supplied) and pull off the control knob(s).
   Note! The flow control knob must be in the off position in order to remove it.

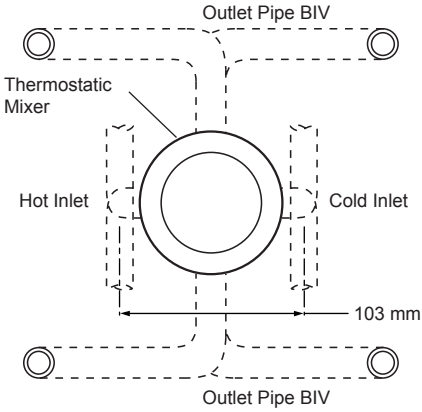


3. Carefully remove the concealing ring from the concealing plate.



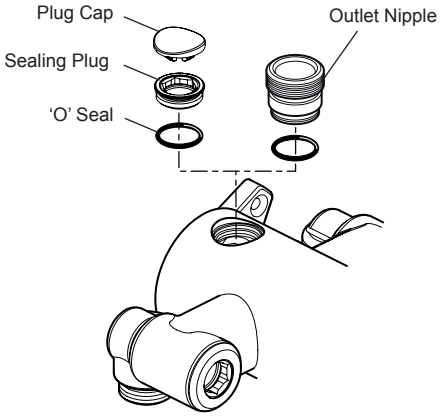
4. Determine the route for the hot and cold supply pipework and for the outlet pipework. When connecting to the BIV shower fittings it is recommended that the outlet be positioned to one side of the mixer. This is to prevent the flexible hose from obstructing the shower controls (refer to illustration).

Alternative Pipe layouts

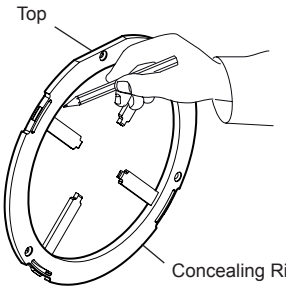


5. Mark the routes for the hot and cold supply pipework at 103 mm centres (**Hot - Left, Cold - Right**).
   Note! If it is not possible to install the mixer with this pipework configuration follow instruction 6.
   Falling Supplies: For falling supplies loosen the grubscrew on each elbow using the 2.5 mm hexagon key (supplied). Remove the elbows and install on opposite sides.
   Important! Make sure that the elbows are pushed fully onto the mixer before tightening the grubscrews, **do not** overtighten.

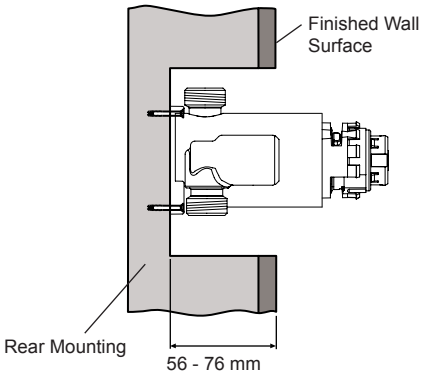
6. **Reversed Inlet Supplies Only:**
   - **a)** Remove the sealing plug using the 'O' key (supplied) or a 12 mm hexagonal key.
   - **b)** Remove the outlet nipple using the 'O' key (supplied) or a 12 mm hexagonal key.
   - **c)** Refit the sealing plug and outlet nipple in the opposite outlets and tighten.
     Note! Make sure that the 'O' seals are correctly fitted.
   - **d)** Rotate the mixer 180°.
   - **e)** If necessary, loosen the grubscrew on each elbow using the 2.5 mm hexagon key (supplied). Remove the elbows and install on opposite sides. Retighten the grubscrews.
     Important! Make sure that the elbows are pushed fully onto the mixer before tightening the grubscrews.



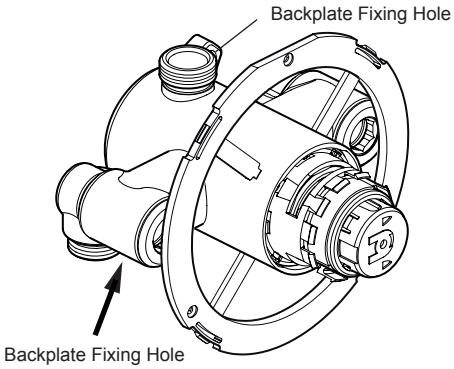
7. Determine the position of the mixer and draw around the **inside** of the concealing ring.



8. Carefully cut away the plasterboard and/or brick work to a depth of between 56 and 76 mm from the **finished wall surface**.
   Important! Take care to stay within the marked out diameter otherwise the concealing ring will not seal.



9. Fit the concealing ring over the mixer body, then, holding the mixer level, central and square in the hole, mark the positions of the two backplate fixing holes on the wall.



10. For solid walls drill two 6 mm holes for the wall plugs. For other types of wall structure alternative fixings may be required (not supplied).
11. **Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer.** Failure to do so may result in product malfunction and will not be covered under the guarantee.

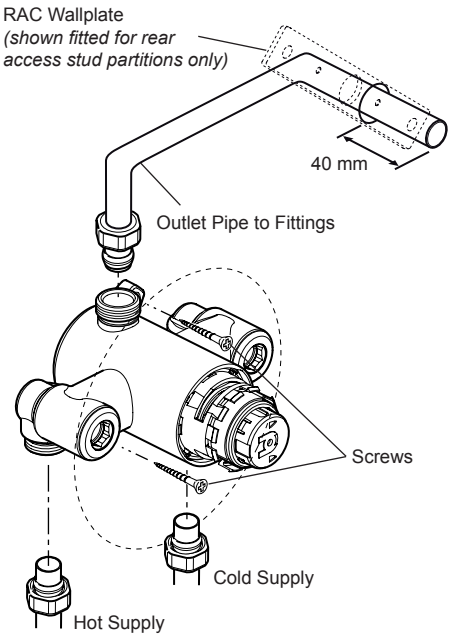
12. Insert the wall plugs (supplied) and attach the mixer to the wall or to the timber noggin with the screws provided.

13. Fit the compression nuts and olives onto the pipework, connect the pipes and tighten the compression nuts.

Important! Make sure that the outlet pipework protrudes through a Ø25 mm hole in the wall or stud partition by approximately 40 mm and temporarily cap off.

Note! For stud partition installations where access to the rear of the partition is possible, fit the RAC wallplate over the outlet pipework on the inside of the partition.

For stud partition installations where access to the rear of the wall is not possible, follow instructions for solid wall installations, making sure that suitable wall fixings (not supplied) are used to secure the wallplate to the outside of the stud partition.



14. Turn on the water supplies and check for leaks.

15. Determine the finished wall position (e.g. tile thickness). Turn off the water supply, carefully uncap the outlet pipe and cut to length, the outlet pipe must protrude through the **finished wall surface** by 21–23 mm.

Note! Remove any burrs from the pipes before proceeding.

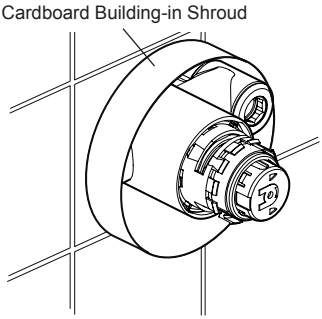
16. For solid wall installations or stud partition installations **without** rear access go to instruction 21.

For stud partition installations with access to the rear of the partition continue with instruction 17.

17. Finish the wall (e.g. tiles).

Important! Make sure that you use the cardboard building-in shroud when finishing the wall. This will protect the valve and make sure that you tile up to the correct diameter.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the controls will not fit correctly.

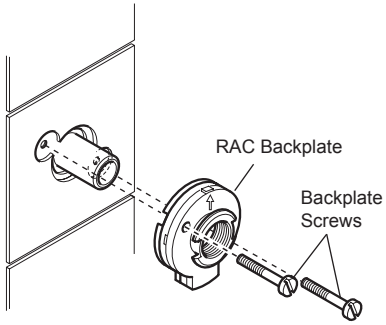


18. Place the RAC backplate over the outlet pipe with the arrow pointing up. The screw holes should be at 45° to the horizontal.

19. Mark the positions of the two RAC backplate fixing holes and drill the two 5.5 mm holes.

Caution! Make sure that you do not drill into pipework in the wall.

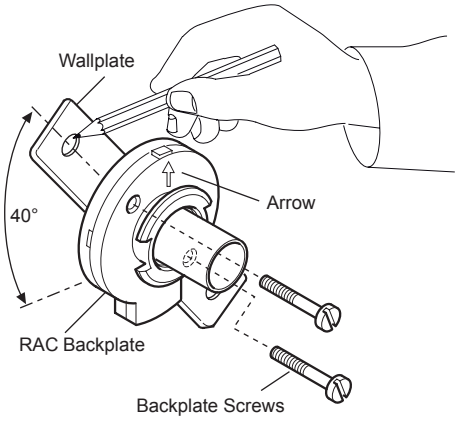
20. Hold the RAC wallplate in position on the rear of the partition, insert the two backplate screws and secure the RAC backplate to the wallplate. Make sure that the foam seal abuts the finished wall surface. Go to instruction 30.



21. Loosely attach the RAC backplate to the RAC wallplate, using the two backplate screws provided.

22. Place the RAC backplate/wallplate assembly over the outlet pipe with the arrow pointing vertically up. The screw holes should be at 40° to the horizontal.

23. Mark the positions of the two RAC wallplate fixing holes.



24. Remove the assembly from the wall and separate the backplate from the wallplate.

25. For solid walls drill two 6 mm holes for the wall plugs. For other types of wall structure alternative fixings may be required (not supplied). If necessary, make a recess 6 mm deep to accept the wallplate for flush fitting of the outlet to the wall surface.

Caution! Make sure that you do not drill into pipework in the wall.

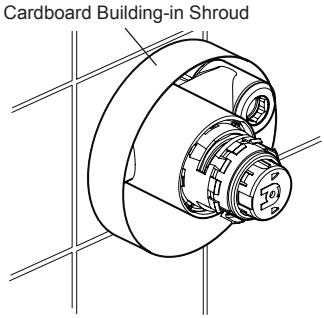
26. Fit the two wall plugs supplied and secure the wallplate to the wall with the two wallplate screws.

27. Make sure that there is clearance behind the wallplate and temporarily fit the two backplate screws into the wallplate. This will prevent the fixing holes from becoming blocked with plaster or grout.

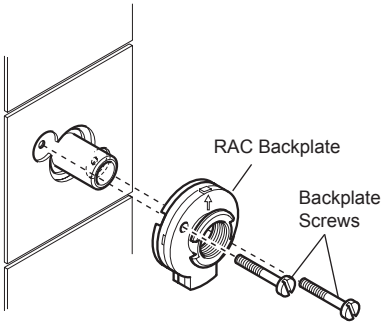
28. Finish the wall, e.g. tiles. then remove the two backplate screws.

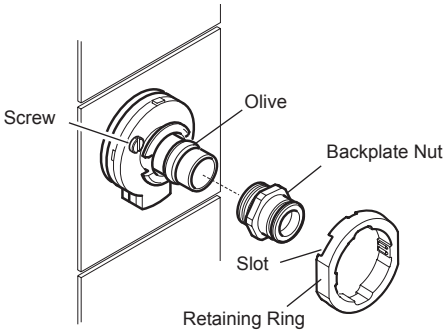
Important! Make sure that you use the cardboard building-in shroud when finishing the wall. This will protect the valve and make sure that you tile up to the correct diameter.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the controls will not fit correctly.



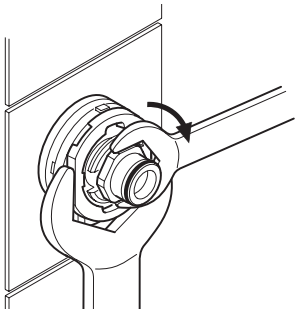
29. Place the backplate over the outlet pipe with the arrow pointing vertically up and tighten the two backplate screws. Make sure that the foam seal abuts the finished wall surface.



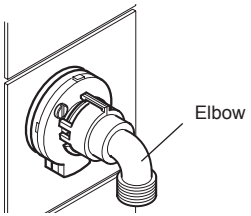


30. Check that the blue 'O' seal is fitted inside the backplate nut. Fit the olive and the backplate nut over the outlet pipe and loosely tighten the nut.

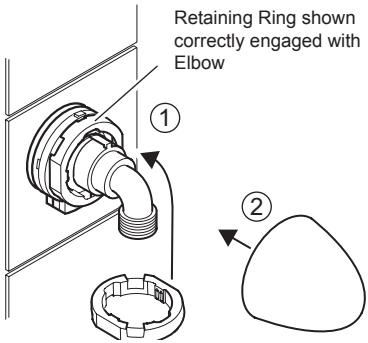
31. To prevent the backplate from turning while tightening the nut, fit the retaining ring over the backplate nut making sure the slots engage with the screws on the backplate, hold the retaining ring with a wrench while tightening the backplate nut. Remove the retaining ring after use.



32. Check that the second 'O' seal (black) is fitted to the outside of the backplate nut. Press the elbow onto the backplate, make sure that the clips on the elbow engage with the backplate.



33. Slide the retaining ring over the elbow and engage with the elbow clips. **Note!** The retaining ring must be engaged correctly to lock the elbow to the backplate, rotate the retaining ring to the postition illustrated.

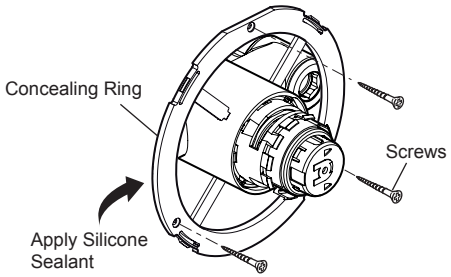


34. Press the shroud over the elbow, make sure that it engages with the lugs on the backplate.

35. Fit the concealing ring over the mixer and mark the positions of the three fixing holes.

36. For solid walls drill three 6 mm holes for the wall plugs. For other types of wall structure alternative fixings may be required (not supplied).

Caution! Make sure that you do not drill into pipework in the wall.



37. Insert the wall plugs (supplied) and attach the concealing ring to the wall with the screws provided.

Important! Apply silicone sealant to the groove on the rear face of the concealing ring

38. Fit the concealing plate to the concealing ring.

39. Refit the control knobs.

40 Fit the shower fittings, refer to your shower fittings installation and user guide for instructions.

Important! For high pressure systems (above 0.5 bar) make sure that the flow regulator (supplied) is fitted, refer to section: **'Flow Regulators'**.

41. Turn on the hot and cold water supplies and check for leaks.

42. Before using the shower, refer to section: **'Commissioning'**.

FLOW REGULATORS

These thermostatic mixers are available with various shower fittings and water saving features, therefore the position and type of flow regulator will vary by model, the flow regulators should be fitted in High Pressure (above 0.5 bar) systems to either;

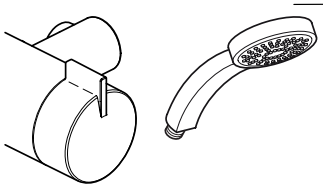
1. Reduce Excessive Force & Flow Rate
2. Reduce Noise through the mixer due to high or unequal pressures
3. Stabilise incoming supply temperatures

Identify your model and install the flow regulator as illustrated (where appropriate). For gravity fed or other low pressure systems do not fit the flow regulator.

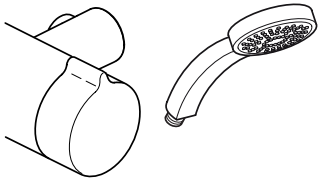
Important! The fitting of any flow regulator to Pace and Miniduo models will invalidate TMV2 compliance due to the minimum flow rate requirements. Do not fit flow regulators in TMV2 applications to these models.

Mira Minilite EV

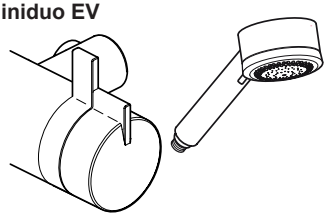
Mira Minilite Eco EV



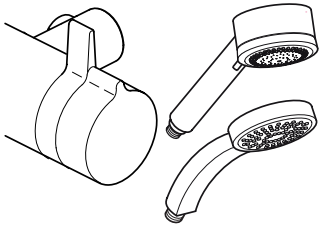
Mira Moto EV



Mira Miniduo EV

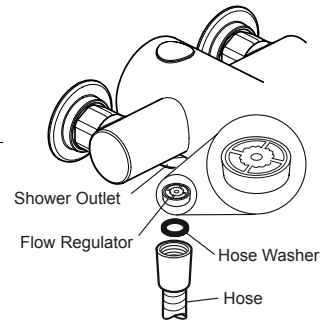


Mira Pace EV



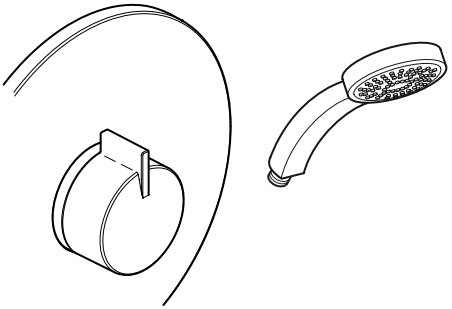
Note! A 12 L/Min flow regulator (red) is supplied separately in the component pack, designed to be fitted in the shower valve outlet.

On Mira Minilite Eco EV models only, a 6 L/Min flow regulator (black) is factory fitted in the shower valve outlet, on older combination boiler systems it may be necessary to replace this flow regulator with the 8 L/Min flow regulator (white/natural), in order to achieve the minimum flow rate required to ignite and run the boiler.



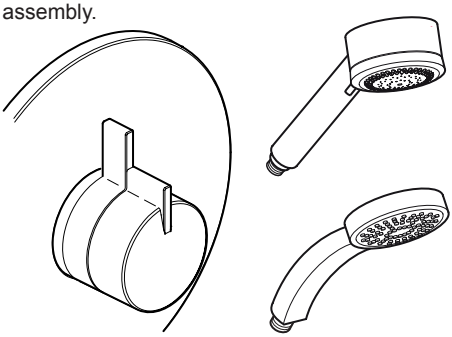
Mira Minilite BIV

A 12 L/Min flow regulator (natural) is supplied separately in the component pack, designed to be fitted between the shower hose and RAC assembly.



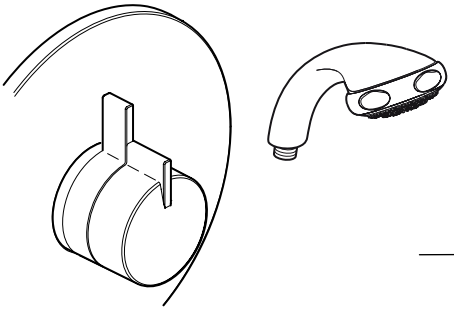
Mira Miniduo BIV

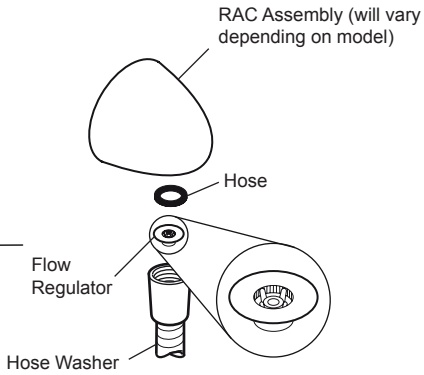
A 12 L/Min flow regulator (natural) is supplied separately in the component pack, designed to be fitted between the shower hose and RAC assembly.



Mira Miniduo with Eco Showerhead BIV

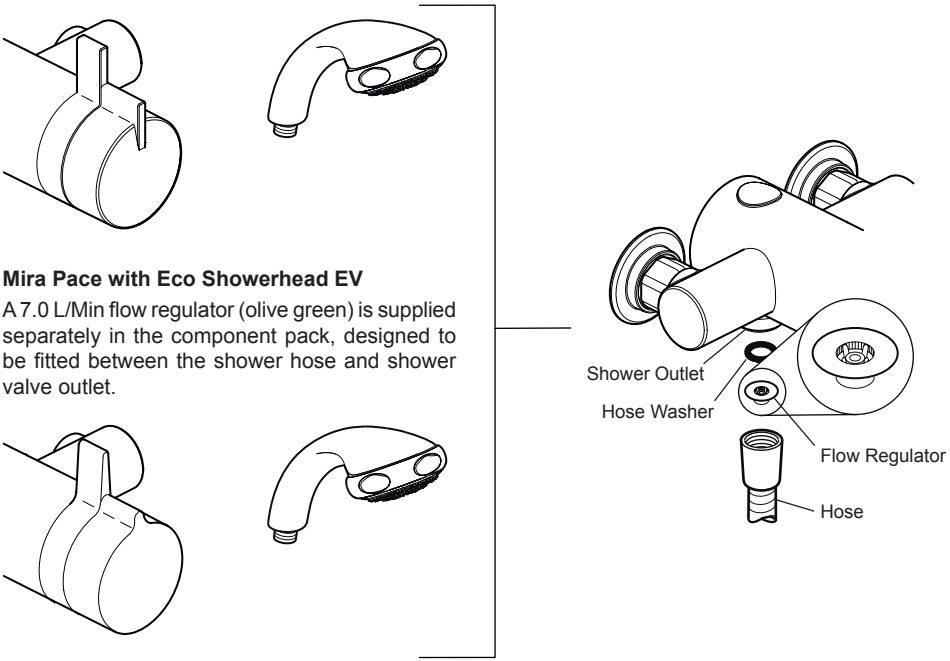
A 7.0 L/Min flow regulator (olive green) is supplied separately in the component pack, designed to be fitted between the shower hose and RAC assembly.





Mira Miniduo with Eco Showerhead EV

A 7.0 L/Min flow regulator (olive green) is supplied separately in the component pack, designed to be fitted between the shower hose and shower valve outlet.

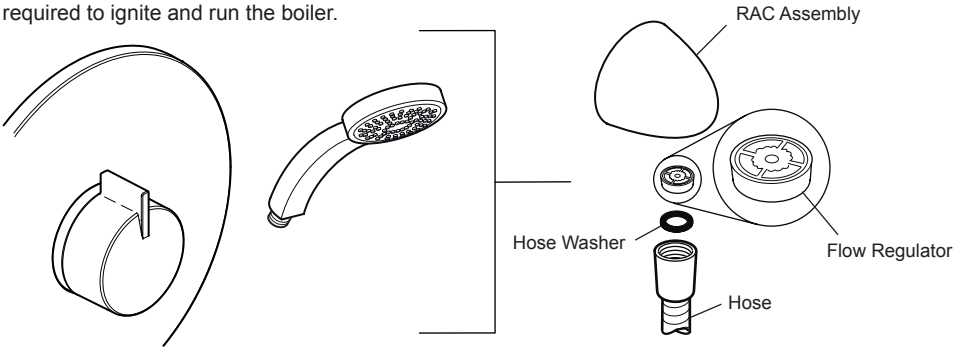


Mira Pace with Eco Showerhead EV

A 7.0 L/Min flow regulator (olive green) is supplied separately in the component pack, designed to be fitted between the shower hose and shower valve outlet.

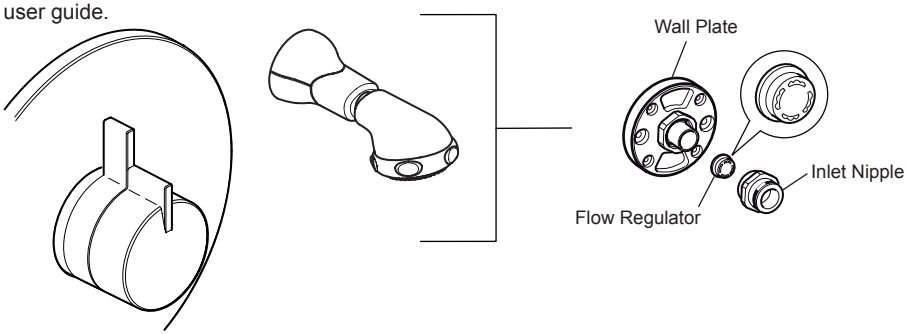
Mira Minilite Eco BIV

A 6 L/Min flow regulator (black) is factory fitted in the RAC assembly, on older combination boiler systems it may be necessary to replace this flow regulator with the 8 L/Min flow regulator (white/ natural), in order to achieve the minimum flow rate required to ignite and run the boiler.



Mira Miniduo with Eco Showerhead BIR

A 7.3 L/Min flow regulator (bright green) is supplied with the BIR showerhead, designed to be fitted between the wall plate and inlet nipple. Refer to your shower fittings installation and user guide.

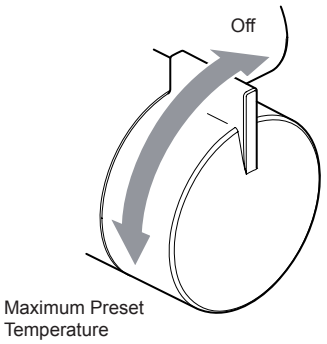


OPERATION

Mira Moto, **Mira Minilite** and **Mira Minilite Eco** thermostatic mixers have a single sequential control lever for on/off and temperature control.

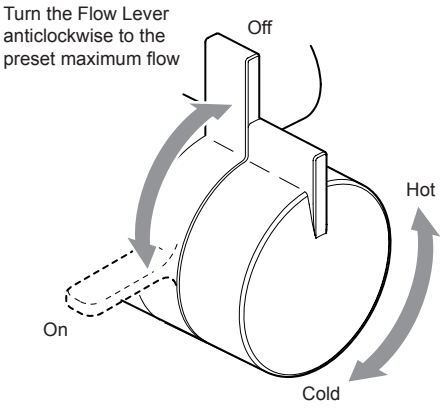
The control lever operates anti-clockwise in the following sequence:

- Off
- On
- Cold
- Warm
- Maximum Preset Temperature



Mira Pace, Mira Pace with Eco Showerhead, Mira Miniduo and **Mira Miniduo with Eco Showerhead** thermostatic mixers have separate control levers for on/off and temperature.

The control levers operate as shown below:



Turn the Temperature Control Handle clockwise to decrease the temperature and anticlockwise to the preset maximum temperature

COMMISSIONING

Maximum Temperature Setting

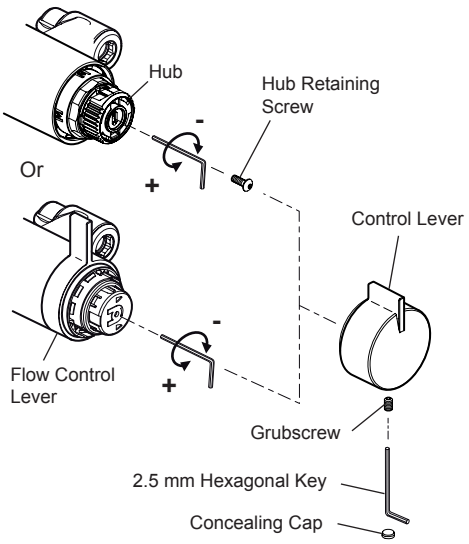
Before using the shower the maximum temperature must be checked to make sure that it is at a safe level. It has been preset to approximately 41°C at the factory but due to variations in site conditions the maximum temperature may need adjustment.

Note! Make sure that the hot water temperature is at least 55°C and that there is sufficient supply. For Type 2 installations the maximum blend temperature is determined by the application, refer to section: **'Type 2 Valves - Application'**.

1. Turn on the mixer to the maximum temperature and maximum flow (i.e. fully anticlockwise) and allow the temperature to stabilise.

   If the temperature is too hot or too cold adjust as follows:
2. Carefully remove the concealing cap from the control knob.
3. Loosen the control lever grubscrew with the 2.5 mm hexagon key (supplied) and pull off the control lever.
4. If applicable unscrew the hub retaining screw with a 2.5 mm hexagon key.

   Note! Do not remove the hub.



5. Insert the 2.5 mm hexagon key into the centre of the spindle and engage with the recessed temperature adjusting screw.
6. Rotate the hexagon key until the required maximum temperature is obtained at the shower. Anticlockwise to increase the temperature, or clockwise to decrease the temperature (¼ turn = approximately 1°C).
7. Once the desired maximum blend temperature has been achieved turn off the mixer by rotating either the hub or flow control lever (depending on model) fully clockwise.

   Note! Do not remove the hub.
8. If applicable refit the hub retaining screw.
9. Refit the control lever with the lever at the top and retighten the grubscrew.
10. Check that the shower temperature is correct.

TYPE 2 VALVES

Application

The approved designations for Type 2 Valves are as follows:

Models	Designation
Moto, Minilite	LP-S, HP-S, HP-SE#

the economy designation is achieved with the fitting of the outlet flow regulator.

Models	Designation
Pace, Miniduo	LP-S, HP-S

Important! The fitting of any flow regulator to Pace or Miniduo models will invalidate TMV2 compliance due to the minimum flow rate requirements. Do not fit flow regulators in TMV2 applications to these models.

Conditions of use for Type 2 Valves

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Maintained Pressure, Hot and Cold (bar)	0.5 to 5	0.1 to 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤25	≤25

Valves operating outside these conditions cannot be guaranteed to operate as Type 2 Valves.

Recommended Outlet Temperatures

The BuildCert TMV scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

44°C for bath fill, but see notes below;

41°C for showers;

41°C for washbasins;

38°C for bidets.

The mixed water temperatures must never exceed 46°C.

The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures.

Note! 46°C is the maximum mixed water temperature from the bath tap. The maximum

temperature takes account of the allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths.

It is not a safe bathing temperature for adults or children.

The British Burns Association recommends 37 to 37.5°C as a comfortable bathing temperature for children. In premises covered by the Care Standards Act 2000, the maximum mixed water outlet temperature is 43°C.

The thermostatic mixing valve will be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.

The fitting of isolation valves is required as close as practicable to the water supply inlets of the thermostatic mixing valve.

Commissioning notes for Thermostatic Mixing Valves

The first step in commissioning a thermostatic mixing valve is to check the following:

The designation of the thermostatic mixing valve matches the application.

The supply pressures are within the valves operating range.

The supply temperatures are within the valves operating valve.

Isolating valves (and strainers preferred) are provided.

If all of these conditions are met, proceed to set the temperature as specified in section: **'Commissioning'**.

Important! The mixed water temperature at the discharge point must never exceed 46°C

It is a requirement that all TMV2 approved valves shall be verified against the original set temperature results once a year. When commissioning/testing is due the following performance checks shall be carried out.

Measure the mixed water temperature at the outlet.

Carry out the cold water supply isolation test by isolating the cold water to the TMV, wait for five seconds if water is still flowing check that the temperature is below 46°C.

If there is no significant change to the set outlet temperature (±2°C or less change from the original settings) and the fail-safe shut off is functioning, then the valve is working correctly and no further service work is required.

Notes! If there is a residual flow during the commissioning of the valve or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

Temperature readings should be taken at the normal flow rate after allowing for the system to stabilise.

The sensing part of the thermometer probe must be fully submerged in the water that is to be tested.

Any TMV that has been adjusted or serviced must be re-commissioned and re-tested in accordance with the instructions given in this guide.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

FAULT DIAGNOSIS

Symptom:

- *Only hot or cold water from the mixer outlet.*
- *Outlet temperature too hot / too cold.*

Cause Rectification:

- *Inlets reversed (hot supply to cold supply). Refer to section:* ***'Reversed Inlet Supplies'****.*
- *No hot water reaching mixer.*
- *Check the filters for any blockage refer to section* **'User Maintenance'.**
- *Installation conditions outside operating parameters, refer to sections:* ***'Specifications'*** *and* ***'Commissioning'****.*
- *If the temperature is too cold and you have a combination type boiler it may not be producing sufficiently hot water at desired flow rate (refer to* ***'Specifications'****). Fit flow regulator (supplied) to shower valve outlet. For more information contact Mira Showers or visit the website.*

Symptom:

- *Fluctuating or reduced flow rate.*

Cause Rectification:

- *Check the showerhead, hose and filters for any blockage.*
- *Make sure that the maintained inlet pressures are nominally balanced and sufficient, refer to section:* ***'Specifications'****.*
- *Make sure that the inlet temperature differentials are sufficient, refer to section:* ***'Specifications'****.*
- *Air lock or partial blockage in the pipework.*
- *Flow regulator fitted incorrectly.*
- *Low flow causing combination boiler to cycle. Operate at preset maximum flow.*
- *Mira Minilite Eco models only - flow regulator causing combination boiler to cycle. Replace 6 L/Min flow regulator (fitted) with 8 L/Min flow regulator (supplied).*

Symptom:

- *Water leaking from the showerhead.*

Cause Rectification:

- *Normal for a short period after shut off.*
- *Check that the pressures are not in excess of the specifications for the product.*
- *Renew the thermostatic cartridge.*

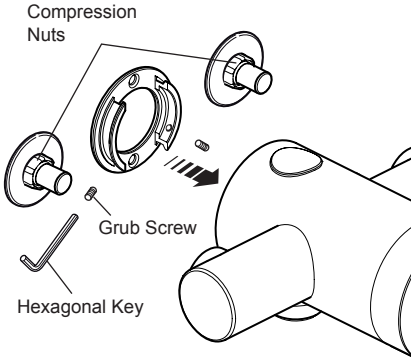
USER MAINTENANCE

If you require a Mira trained service engineer or agent, refer to section: **'Customer Services'**.

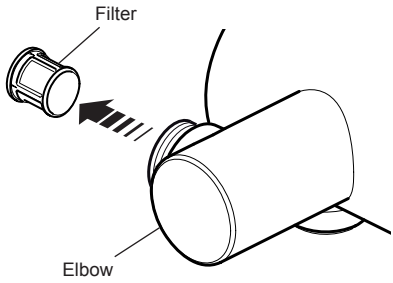
Filter Replacement

Exposed Models

1. Isolate the water supplies.
2. Turn on the flow control knob to relieve water pressure and to drain any residual water.
3. Unscrew the shower hose or rigid riser from the mixer outlet.
4. Using a suitably sized wrench loosen both compression nuts.
5. Using a 2.5 mm hexagonal key (supplied) unscrew the grubscrew securing the mixer to the backplate.



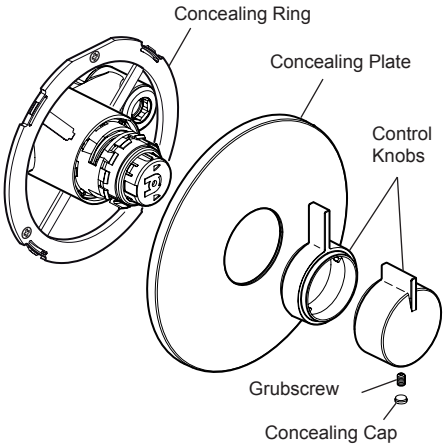
6. Remove the mixer.
7. The filters are retained in the elbow inlet, remove them and inspect for debris blockage. Clean each of the filters under a jet of water to remove any lodged particles.



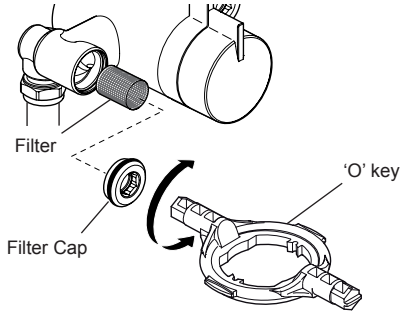
8. Refit or replace the filters and reassemble in reverse order.
9. Restore the water supplies and check for leaks.

Built in Models

1. Isolate the hot and cold water supplies.
2. Turn on the flow control knob to relieve water pressure and to drain any residual water.
3. Return the flow control knob to the off position and carefully remove the concealing cap.



4. Unscrew the grubscrew using a 2.5 mm hexagonal key (supplied) and pull off the control knob(s).
5. Carefully unclip and remove the concealing plate from the backplate.
Note! Use a screwdriver in the cutout to assist separation.
6. Unscrew the filter caps with the 'O' key (supplied) or a 12 mm hexagonal wrench and remove the filters.
Note! Use pliers to assist if necessary.



7. Clean each of the filters under a jet of water to remove any lodged particles.
8. Refit or replace the filters and tighten the filter caps.
Note! Make sure that the seal is fitted correctly and not damaged.
9. Turn on the hot and cold water supplies and check for leaks.
10. Reassemble all other parts in reverse order.

Lubricants

Silicone based lubricants must only be used on the rubber seals.
Caution! Oil based or other lubricant types may cause rapid deterioration of seals.

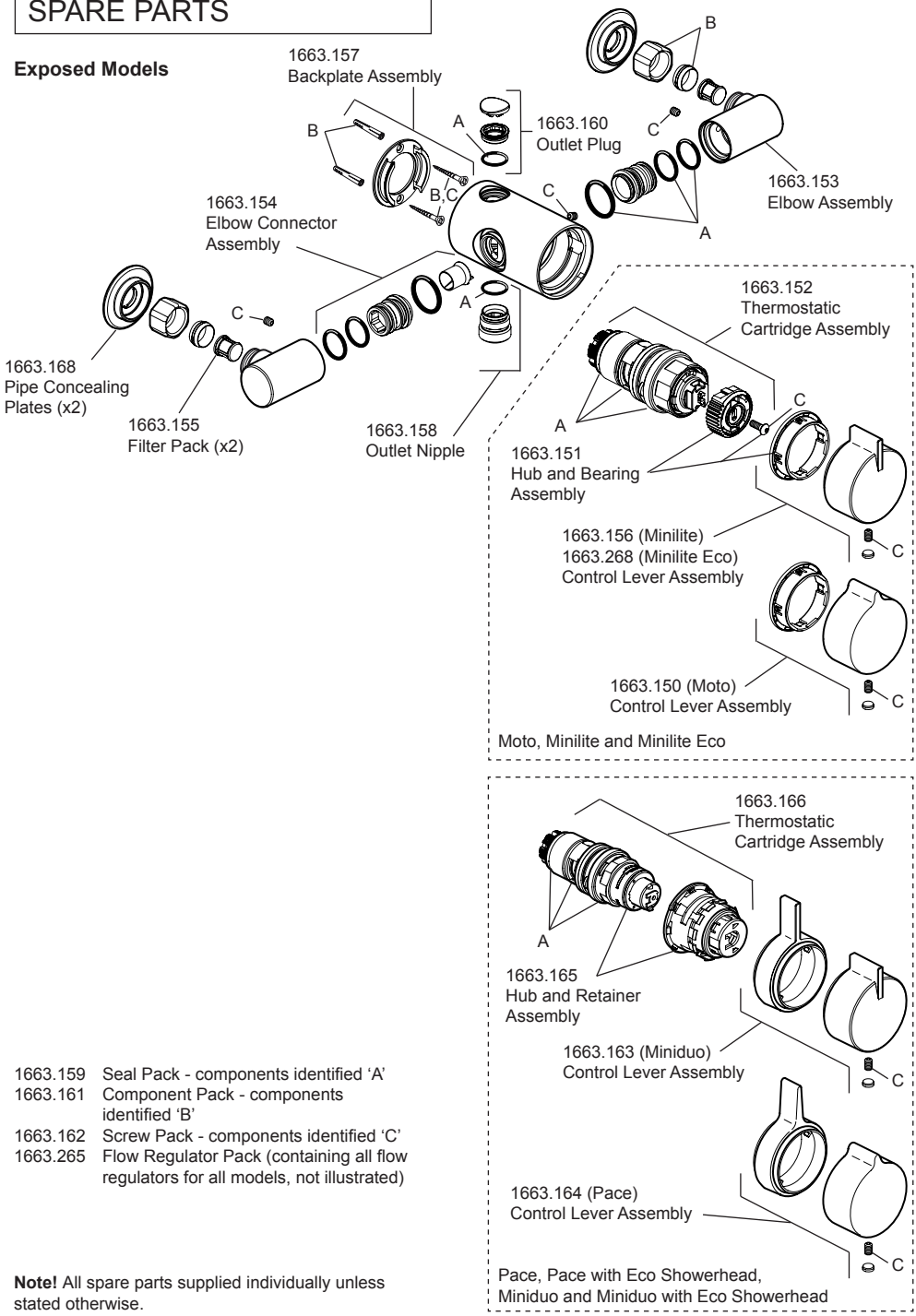
Cleaning

The chrome plated parts should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.
Warning! Many household cleaners contain abrasive and chemical substances, and should not be used for cleaning plated or plastic fittings.
Do not use descalents on this product.

NOTES

SPARE PARTS

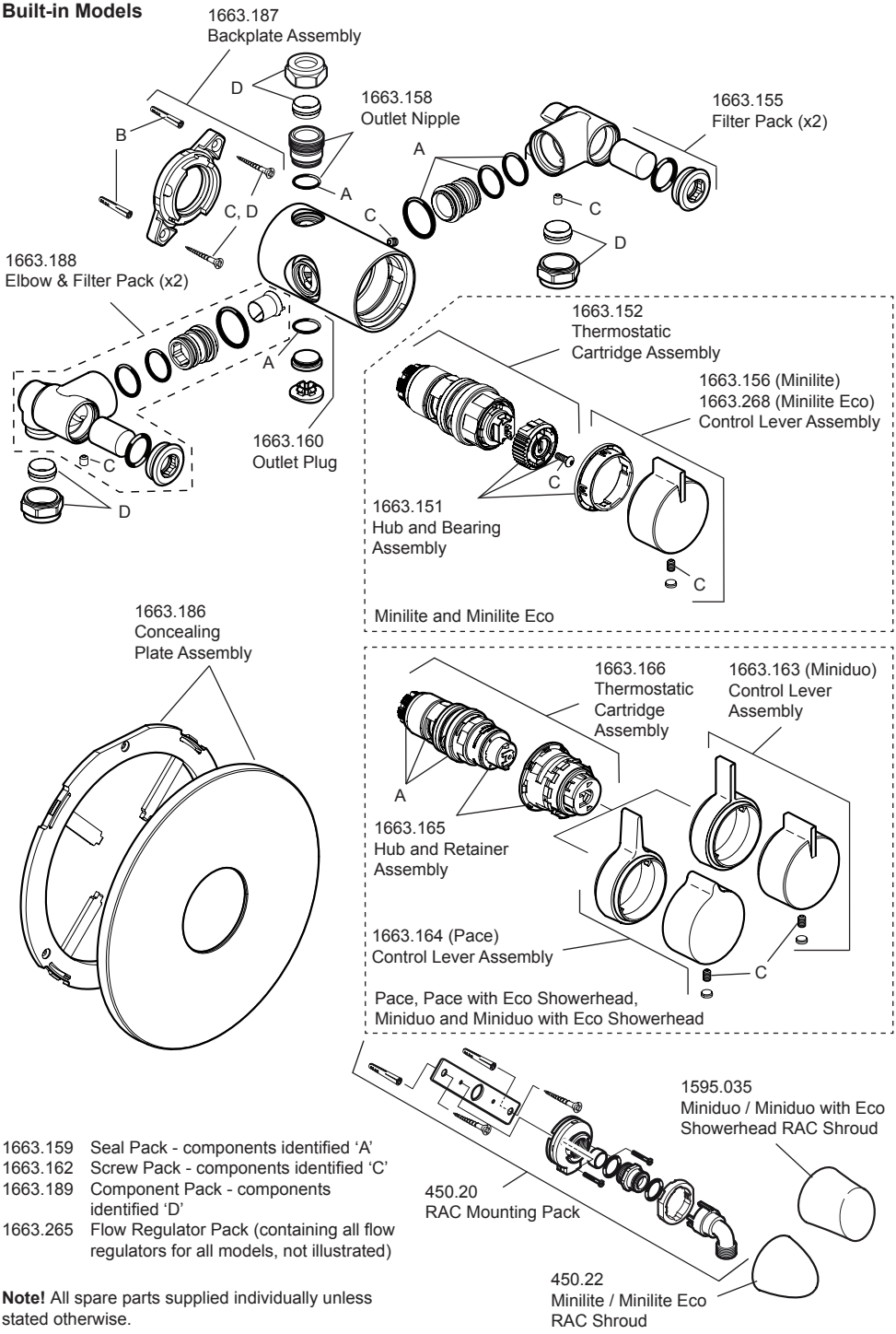
Exposed Models



1663.159	Seal Pack - components identified 'A'
1663.161	Component Pack - components identified 'B'
1663.162	Screw Pack - components identified 'C'
1663.265	Flow Regulator Pack (containing all flow regulators for all models, not illustrated)

Note! All spare parts supplied individually unless stated otherwise.

Built-in Models

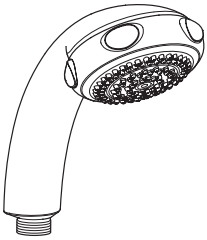


1663.159 Seal Pack - components identified 'A'
1663.162 Screw Pack - components identified 'C'
1663.189 Component Pack - components identified 'D'
1663.265 Flow Regulator Pack (containing all flow regulators for all models, not illustrated)

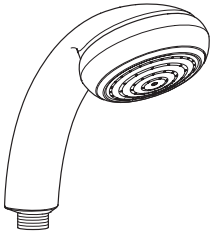
Note! All spare parts supplied individually unless stated otherwise.

ACCESSORIES

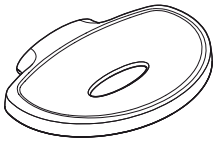
Genuine Mira accessories can be purchased direct from Mira Customer Services (our contact details can be found on the back cover of this guide) or from approved stockists or merchants.



Eco Showerhead
White - 2.1668.001
Chrome - 2.1668.002
The Eco shower head gives you an invigorating shower, but reduces water consumption and heating costs.

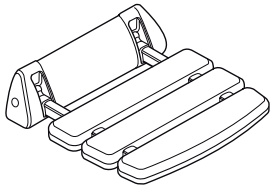


Everclear Showerhead
White - 2.1616.030
Chrome - 2.1616.031
Mira's new Everclear range has been specially designed for hard water areas and reduces the risk of lime scale build up.

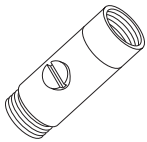


Wall Mounted Soap Dish
White - 1.1540.278
Chrome - 1.1540.279
Wall mounted for use anywhere in, or outside the showering area.

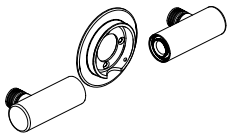
Premium Shower Seat
White/Chrome - 2.1731.001
White/Chrome - 2.1731.002
Stylish, slim-line and robust shower seat for use in or outside of the shower area. Folds up when not in use.
Maximum User Weight - 150kg (23.5 stone) **Note!** Must be installed onto a solid wall.



Shower Seat
White - 2.1536.128
White/Chrome - 2.1536.129
For use in or out of the showering area. **Note!** Must be installed onto a solid wall.
Shower seat folds up when not in use



Double Outlet Check Valve (DCV-H)
Chrome - 1.0.110.55.1
DCV-H: An outlet double check valve, designed to prevent the backflow or backsiphonage of potentially contaminated water, through shower controls which are fitted with a flexible hose as part of the outlet shower fitting.



Adjustable Elbow Pack
Chrome - 1.1663.012
The Mira Adjustable Elbow Pack allows the Mira 'mini valves' to be retro-fitted in place of an existing shower - no need to re-plumb or re-tile.

CUSTOMER SERVICE

Guarantee

Your product has the benefit of our manufacturer's guarantee which starts from the date of purchase.

To activate this guarantee, please return your completed registration card, visit our website or free phone 0800 0731248 within 30 days of purchase (UK only).

Within the guarantee period we will resolve defects in materials or workmanship, free of charge, by repairing or replacing parts or product as we may choose.

If you have not previously activated the guarantee, you will be required to do so prior to the provision of assistance. If you do not activate your guarantee our Engineer will be entitled to charge full payment for the visit (Call out fee plus parts).

This guarantee is in addition to your statutory rights and is subject to the following conditions:

- The product must be installed and maintained in accordance with the instructions given in this user guide.
- Servicing must only be undertaken by us or our appointed representative. **Note!** if a service visit is required the product must be fully installed and connected to services.
- Repair under this guarantee does not extend the original expiry date. The guarantee on any replacement parts or product ends at the original expiry date.
- For shower fittings or consumable items we reserve the right to supply replacement parts only.

The guarantee does not cover:

- Call out charges for non product faults (such as damage or performance issues arising from incorrect installation, improper use, lack of maintenance, build up of limescale, frost damage, corrosion, system debris or blocked filters) or where no fault has been found with the product.
- Water or electrical supply, waste and isolation issues.
- Compensation for loss of use of the product or consequential loss of any kind.
- Damage or defects caused if the product is repaired or modified by persons not authorised by us or our appointed representative.
- Routine maintenance or replacement parts to comply with the requirements of the TMV 2 or TMV 3 healthcare schemes.

What to do if something goes wrong

If your product does not function correctly when you first use it, contact your installer to check that it is installed and commissioned in accordance with the instructions in this manual. Should this not resolve the issue, contact our Customer Services Team who will offer you or your installer advice and if applicable arrange for a Service Technician to call. If the performance of your product declines, check in this manual to see if simple home maintenance is required. If you require further assistance call our Customer Services Team.

Extended Guarantees

A selection of protection plans are available that enable you to cover repair bills for the life of your policy (excludes Eire). Ring 01922 471763 for more details.

Helpdesk Service

Our dedicated Customer Services Team is comprehensively trained and can offer help and advice, spare parts, accessories or a service visit. We will need you to have your model name or number, power rating (if applicable) and date of purchase. As part of our quality and training programme calls may be recorded or monitored.

Mira Showers Website (www.mirashowers.co.uk)

From our website you can register your guarantee, download additional user guides, diagnose faults, purchase our full range of accessories and popular spares, refer to our FAQ's and request a service visit.

Spares and Accessories

We maintain extensive stocks of genuine spares and accessories and aim to provide support throughout the product's expected life. Payment can be made by phone at time of order using most major Credit or Debit cards and we aim to despatch orders within two working days. Items purchased from us are guaranteed for 12 months from date of purchase. For safety reasons spares exposed to mains voltages should only be fitted by competent persons.

Returns – items can be returned within one month of date of purchase, providing that they are in good condition and the packaging is unopened. Please obtain authorisation from our Customer Services Team before return. We reserve the right to apply a 15% restocking charge.

Service / Repairs

We have a nationwide team of Service Technicians who can carry out all service or repair work to your product within the guarantee period and beyond. You have the assurance of a fully trained Mira Technician, genuine Mira spare parts and a 12 month guarantee on any chargeable work done.

Payment should be made directly to the Service Technician who will accept most major Credit or Debit cards.

To Contact Us

UK

Telephone: 0844 571 5000

www.mirashowers.co.uk

E-mail: technical@mirashowers.com

Fax: 01242 282595

By Post: Mira Customer Services Dept, Cromwell Road, Cheltenham, Gloucestershire, GL52 5EP

Eire

Telephone: 01 459 1344

E-mail: sales@modernplant.ie

Fax: Dublin 01 459 2329

By Post: Modern Plant Ltd (Dublin), Otter House, Naas Road, Clondalkin, Dublin 22

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